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**21st Century Learning Initiative**

**June 3, 2013**

**Rationale**

Technology can be found within every facet our lives. It is something in education we need to embrace and explore so students can create, collaborate, critically think, and communicate in the 21st Century. It is our responsibility as educators to teach them how to use technology to enhance learning. Technology integration opens the door to project-based learning, encourages students’ engagement and teaches different learners in multiple ways (Edutopia 2008).

Beginning in the fall of 2012 I was provided time in my schedule to focus on technology integration or blended learning in the classroom and professional development for staff. Having access to technology throughout the school day has transformed my classroom in a positive way. I began the year using a learning management system (LMS) Edvance360. If you are designing a hybrid course, it is a meaningful application tool. Although I like having the variety of applications the LMS offers, it was cumbersome to use with students who are with you face-to-face in the classroom. As a result, I created a Google site (<https://sites.google.com/site/cwmichaelsen/>) where students access presentations, assignments, and virtual activities. Students have spent time learning about digital citizenship, creating blogs using Blogger, using Web 2.0 tools, and Google apps for education.

After success in implementing technology into the curriculum I was able to offer professional development to staff in use of the learning management system Edvance360, Google apps, and Web 2.0 tools such as Glogster and Animoto. These offerings helped move staff forward in finding meaningful ways to move learning forward in the classroom and is the beginning of meeting our strategic plan goal: All students K-12 will have technology available and incorporated into instruction.

**Research/Competencies Met**

As educators we want our students to be actively engaged in their education, to be able to construct their own knowledge and make their educations personal to them, and to be immersed in real-world experiences so that their educations become more meaningful. What we don’t want is for our students immersed in non-meaningful and unrelated learning contexts and areas of study which do not interest the students, lessons and activities which do not engage the student in the learning process (i.e. worksheets, flashcards, slides, etc.), and a lack of opportunity for the students to investigate, exercise, and apply the things that they are learning.

Technology use often refers to those activities which tend to *instruct* the students, including informational websites, PowerPoint presentations, DVD players and display projectors. These types of technologies usually have very little to no direct learner interaction involved. Technology Integration refers to those activities which tend to *engage*  the students. Such technologies could include interactive mathematics software, web making software (i.e. for brainstorming or organizing information), or interactive websites such as Wikis or blogs. These types of technologies are usually rich in user/learner interaction, thus enriching the learner’s overall understanding of the topic being studied. **(*Leadership:* 1 servant, moral, collab; 2 organization vision; 9 effective communication. *Decision Making:* 4 motivational theories; 5 long range strategic plans)**

I was able to encounter this very experience as the lead staff member of the 21st Century Learning Initiative. Beginning in the fall of 2012 I had 28 thin client computers added to my classroom. The computers were housed in lockers where they were charged daily and only accessed by students in my science classes. The goal of the initiative was to engage students in a technology rich environment to increase learning opportunities and achievement in science. I am truly passionate about technology’s role in education. As we prepare students in the 21st Century, a focus on technology is vital. Technology is always evolving and changing and can be found within every facet our lives. In education, technology literacy is something we need to embrace and explore so students can create, collaborate, critically think, and communicate in the world today (Edutopia Staff 2008). It is our responsibility as educators to teach them how to use technology to enhance learning. **(*Leadership:* servant, moral, collab; 2 organization vision; 5 change process. *Decision Making:*  5 long range strategic plans. *School Law:*  5 student discipline; 6 teacher liability; 9 staff handbooks. *Facilities:*  1 plans, budgets; 2 design, construction; 6 impact facilities on learning.)**

Over the 2012-13 school year I have found that although students are surrounded by technology and using it for social applications, gaming, and entertainment, they are not familiar with using it for educational purposes. Most of my students had never seen a blog or even knew what one was. In my classroom, I have introduced students to Web 2.0 tools like Animoto, Glogster, Sliderocket, and Prezi. Students have also used Google docs/apps for collaboration and research in the classroom. Some have been willing and interested in learning new ways to implement technology educationally, but I was surprised by some of my best students not embracing the change as I would have expected. Learning a new tool is difficult and takes time, something which many students do not want to put effort toward. I have learned when I introduce a new tool to give them time to learn it and then use it with content. I must model and provide tutorials for them to feel comfortable with what we are using. I assumed, like many others, that they would just know what to do. Although the time it takes them to learn is fast, they still need additional time to learn the tool just like everyone else. **(*Curriculum/Instruction:* 6 continuous assessment; 7 research: best practice. *Administration of Curriculum:* 3 best practice/technology; 6 role of technology; 7 student/instructional eval. *Research:* 6 action research; 9 program evaluation.)**

Although a clear direction and vision for implementation is essential, moving forward with technology is important. “Research indicates that the use of technology can be affect student learning when learning goals are clearly articulated beforehand. When applied effectively, technology not only increases student learning, understanding and achievement, but also motivates students to learn, encourages collaborative learning, and helps develop critical thinking and problem-solving skills” (Pitler et al. 2012) According to Fadel and Lemke (2006), the results are now in - technology use can positively impact student learning and help students think in new and different ways. For example, “a 2003 California study with high school and middle school students found that compared to a control group, the laptop students significantly outscored students in conventional classrooms in the areas of mathematics and language arts.” In another study from Turkey, students who learned in a classroom with a constructivist approach to learning showed greater cooperation and collaboration, higher levels of learning, more confidence, and more willingness to participate in learning activities (Erdamar, 2008).

Gains in test achievement are not only seen as a result of using technology to study, but also in the use of technology for assessment, particularly for students with special needs. Students that have physical and learning disabilities may underperform on tests not because they have not mastered the content, but possibly because of the format through which the test is administered (Dolan, 2005). “A study done with children with dyslexia found that providing computer-based read-aloud support to students improved their performance on a multiple-choice United States history and civics tests” (Dolan, 2005). **(*Curriculum/Instruction:* 6 continuous assessment; 7 research: best practice. *Administration of Curriculum:* 3 best practice/technology; 6 role of technology; 7 student/instructional eval. *Research:* 6 action research; 9 program evaluation.)**

The end result of this project was the opportunity to share with the staff ideas in how to effectively integrate technology into classroom and curriculum throughout the high school. Professional development is an essential component of moving forward with technology. I led staff development in use of a learning management system Edvance360, Google documents/apps, and Web 2.0 tools such as Animoto and Glogster. As the 21st Century Lead I was also able to meet individually with staff regarding best practice involving technology and to brain storm ideas for how to communicate with students and parents regarding a variety of types of information. **(*Leadership:* 3 context for leadership; 9 effective communication. *Decision Making:* 6 problem solving strategies. *School Community*: 5 interpersonal relationships; 6 public relations.)**

Technology can be a tremendous asset when trying to add diversity to our learning environment, however, successful technology integration is really about balancing the best of both worlds.  I believe face-to-face learning is best, but technology can do things face-to-face learning cannot.  It can connect us at a global level - finding resources, research, and experts from all around the world. There are a multitude of tools available that can help students who need more practice - technology can be a tremendous motivator when used appropriately. Other tools can be used to facilitate collaboration and creativity.  Through my experiences this year, I have gained an appreciation for technology, while still respecting its use for times when it is the best way to increase student learning.  It can’t be forced into our classrooms, but the only way to integrate its use is through experimenting with what works and doesn’t work.  Although a clear direction and vision for implementation is essential, moving forward with technology is important. Research shows us that technology use can positively impact student learning and help students think in new and different ways. **(*Facilities:* 1 plans, budgets; 6 impact facilities on learning; 8 technology. *Human Resources:* 3 staff development programs. *Curriculum/Instruction:* 8 educational technology. *Learner Centered Leadership:* 9 long range strategic plans.)**

**So What?**

As technology continues to permeate our lives, we will need to embrace the positive potential it has for use in our classrooms. Technology Integration actively engages the learner in the activity and into the learning process. Such integration strategies “require students to think about what they know in different, meaningful ways,” it can individualize learning by giving feedback and act as a catalyst for change towards more student centered learning. (Jonassen et al. 1998).

Staff needs to be up-to-date on the relevance of technology and how it can best be used within the classroom. As a result, we need to keep the following in mind when preparing to use technology in our classroom:

* + Is the learner actively engaged in this activity?
  + Is this activity focusing on information the student has already begun to learn, or is the activity teaching foreign information?
  + Does this activity encourage critical thinking and thinking about information in meaningful ways?
  + If the activity does not meet these criteria, then most likely it is not properly *integrated* into the classroom.

These goals will drive professional development in the area of technology integration and provide the kind of learning environment which will support students in preparing them for careers not even created yet. This is a challenge – it will change our traditional views on how learning best happens and will require creative thinking and innovative solutions. It is time for educational professionals to embrace the potential for more engaging, relevant, and inspiring instruction using technology.

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